

**System and Method for Embedded Java Memory
Footprint Performance Improvement**

ABSTRACT

A system and method are provided to allow demand 5 loading and discarding of Java executable image (JXE) files. The virtual machine allocates an address space for a requested JXE program. The read-only portion of the JXE file is memory mapped from its nonvolatile location to the allocated memory space using read-only mapping and the 10 read/write section of the JXE file are loaded into memory. When a page of the JXE program is needed, a page fault occurs if the read-only portion has not been loaded into memory. The operating system's page fault handler retrieves the needed page(s) from the nonvolatile storage 15 location based upon the mapping data that resulted from the previously performed memory mapping. Because the read-only section of the JXE file is memory mapped using read-only mapping, the operating system's paging process is free to discard previously loaded memory pages that contain read- 20 only portions of the JXE file.